



The Life of an Alpaca

TEACHER GUIDE

LESSON 2

YEAR 3-4

This resource has been developed by:



LESSON 2

The Life of an Alpaca

➤ LEARNING AREAS / YEAR LEVEL

Design and Technologies (Year 3–4)

Science (Year 3)

Mathematics (Year 3–4)

Humanities and Social Sciences (Year 3)

➤ AUSTRALIAN CURRICULUM CONTENT

Describe the ways of producing food and fibre (**AC9TDE4K03**)

Compare characteristics of living and non-living things and examine the differences between the life cycles of plants and animals (**AC9S3U01**)

Construct and use representations, including tables, simple column graphs and visual or physical models, to organise data and information, show simple relationships and identify patterns (**AC9S3I04**)


Identify which metric units are used to measure everyday items; use measurements of familiar items and known units to make estimates (**AC9M3M01**)

Interpret unmarked and partial units when measuring and comparing attributes of length, mass, capacity, duration and temperature, using scaled and digital instruments and appropriate units (**AC9M4M01**)

Locate, collect and record information and data from a range of sources, including annotated timelines and maps (**AC9HS3S02**)

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▶ LESSON OBJECTIVE

Students will learn about the history of alpacas in Australia and their uses on farms. They will also learn about the life cycle of an alpaca from birth to adult phase and the names, features and timeline associated with these stages of growth and development.

▶ LESSON OVERVIEW

Activity 2.1 – Arriving in Australia (60 minutes)

Activity 2.2 – The Life of an Alpaca (50 minutes)

Activity 2.3 – Building a Life Sized Alpaca (20-60 minutes)



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Resources and Equipment

➤ ACTIVITY 2.1 – Arriving in Australia

1. **Worksheet 2.1a – I am an Alpaca** (Stimulus activity)
2. [Why farm alpacas in Australia](#) (1:14)
3. **Worksheet 2.1b – What are Alpacas Used For?** (Recording activity)
4. **Worksheet 2.1c – Arriving in Australia** (Literacy activity)
5. **Worksheet 2.1d – Arriving in Australia** (Mapping activity)
6. [Google Earth](#)

➤ ACTIVITY 2.2 – The Life of an Alpaca

1. [The Very Hungry Caterpillar](#) (6:47)
2. **Worksheet 2.2a – Alpacas Grow and Change** (Craft activity)
3. Paper plates or template, scissors, marker and glue sticks.

➤ ACTIVITY 2.3 – Building a Life Sized Alpaca

1. **Worksheet 2.3a – Alpaca Data Sheet** (Modelling activity)
2. **Option 1:** Worksheet 2.3a, metre rulers, scissors, string or toilet rolls or streamers.
Option 2: Worksheet 2.3a, metre rulers, scissors, butchers paper, masking tape or chalk and cement area.
Option 3: Worksheet 2.3a, recyclable materials (bottles, cardboard, etc.), glue sticks, masking tape, scissors and any other suitable materials.
3. **Worksheet 2.3b – How Fast Does a Cria Grow?** (Calculation activity)

Lesson Guide

> ACTIVITY 2.1 – Arriving in Australia

Students will learn about the introduction of alpacas into Australia and their classification as an introduced species. They will understand the features of alpacas that make them suitable for living in Australia and how they produce fibre that is used by people.

1. As a class, brainstorm a list of animals that live in Australia. As students contribute their ideas, allocate the animals into two groups by recording them in different columns in a central area. Categorise animals into a 'native' or 'introduced species' column, but do not title the columns (so students are unaware of the categorisation).
 2. After approximately 15 animals have been recorded, ask students why they have been placed into two different groups (if no Australian native animals have been contributed, add some to the list, e.g. koala, kangaroo, wombat).
 3. Ask students to consider what features an animal needs to live in Australia (e.g. *they are able to withstand hot and cold temperatures; they can survive on the food that is available or can be supplied; they must be able to cope with varied availability of water; and are able to avoid predators, etc.*).
 4. Display the picture of the alpaca on **Worksheet 2.1a – I am an Alpaca** (Stimulus activity) and ask students to firstly, identify the animal, then describe some of its features (*long fleece, long neck, shape of ears*) and finally, identify whether the alpaca is a native or introduced species (*introduced*).
 5. As a class, view the video [Why farm alpacas in Australia](#) (1:14).
 6. Distribute a copy of **Worksheet 2.1b – What are Alpacas Used For?** (Recording activity) and ask students to record the different uses of alpacas. For differentiation, some students/classes may only copy the bold term, and for others, a brief description can accompany the use.
 - **Fleece** – Alpacas grow a valuable fibre that is used for many purposes.
 - **Guardian animals** – Alpacas are placed in the same paddocks as sheep and goats to reduce predation by foxes.
 - **Pets** – Alpacas are low maintenance animals, with minimal environmental impact.
- Optional inclusion:
- **Meat production** – Alpaca meat is a low-fat, high-protein food source.

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7. Using **Worksheet 2.1c – Arriving in Australia** (Literacy activity), read the information about the introduction of alpacas from Chile (South America) to Australia.
8. Distribute **Worksheet 2.1d – Arriving in Australia** (Mapping activity) to students. Provide them with access to digital devices and use the Google Earth link to either lead students through the mapping activity as a class, or allow students to work in pairs to complete the questions. Students use Google Earth to locate the relevant information on their maps and measure the distance of the journey that alpacas made when they were introduced from Chile, to the closest city/regional area/town that students live near (as a reference point).

Answers 

ACTIVITY 2.2 – The Life of an Alpaca

Students will learn about the life cycle of an alpaca and relate the phases of development of an alpaca to their own growth and development. They will complete a craft activity to create a life cycle model of an alpaca from birth to the adult phase.

1. As a class, brainstorm the following questions and record ideas in a central area:
 - How do you look different from when you were a baby?
 - What are the stages in a human's life cycle?
2. As a class, watch the video [The Very Hungry Caterpillar](#) (6:47). Ask students to recall the changes that the caterpillar makes from the beginning to the end of the story.
3. Explain to students that when animals (including humans) grow older, the most apparent change is their size (height, weight and width). They also change in other ways, such as the different sexes developing characteristics so that they can reproduce. Although the life cycles are described in stages, animals gradually change from day-to-day throughout all of these stages.
4. Students use **Worksheet 2.2a – Alpacas Grow and Change** (Craft activity) to create a record of an alpaca's life cycle. Students follow the instructions to cut out the images and descriptions, sticking the pictures in the correct locations on either a real paper plate or the template to show the growth of an alpaca over time.

Answers 

5. Encourage students to describe how:
 - An alpaca's appearance changes from one stage to the next;
 - An alpaca's name changes during the different life stages; and
 - The gender of the alpaca influences the terms used to describe it.

ACTIVITY 2.2 – Building a Life Sized Alpaca

Students will learn about the difference in the dimensions of an alpaca as it transitions through its life cycle. They will use skills in measurement and modelling to track the changes from a cria, weaner, tui, through to an adult.

1. Select a modelling option from the table below and distribute the required materials to student groups.
2. Students work collaboratively to create models of a cria, weaner, tui and an adult alpaca using the data provided on **Worksheet 2.3a – Alpaca Data Sheet** (Modelling activity) and the materials that have been provided.
3. Assist students in designing and building replicas showing the changing dimensions of an alpaca over time.

Option	Model Description	Materials
1	String, toilet paper or streamers model Students use the data on their worksheet and a ruler to measure the height of an alpaca from its feet to its head (centimetres) at each phase (cria, weaner, tui and adult). Students cut the chosen material off at the correct length and place them in order from the smallest to tallest.	<ul style="list-style-type: none"> • Worksheet 2.3a • Metre rulers • Scissors • String or toilet paper or streamers
2	Butchers paper or cement/chalk model Students use the data on their worksheet and a ruler to draw the outline of each of the phases of an alpaca (cria, weaner, tui and adult). Students select either butchers paper or a designated cement area and use the provided height and length dimensions to draw their outlines.	<ul style="list-style-type: none"> • Worksheet 2.3a • Metre rulers • Scissors • Butchers paper and masking tape or • Chalk and cement area
3	Recyclable materials model Students use the data on their worksheet, recyclable materials and a ruler to build a 3D model of each of the phases of an alpaca at the correct height and length dimensions.	<ul style="list-style-type: none"> • Worksheet 2.3a • Recyclable materials (bottles, cardboard, etc.) • Glue • Masking tape • Scissors

4. As an extension task, distribute **Worksheet 2.3b – How Fast Does a Cria Grow?** (Calculation activity). Ask students to calculate the weight gain of a cria from its birth weight until it is six months old. To allow students to visualise the change in weight over time, use a representation of 5–6kgs for students to lift (e.g. sugar bags or milk cartons filled with water to the correct weight). The birth weight of a cria is between 6–8kgs.

Answers 

5. Conclude this activity by asking students why this data or information is important to farmers (*farmers need to know the amount of feed the animals need, they also need to be able to calculate the correct amount of medicine for animals, as well as determine when the animals will be ready to produce fibre, meat, etc.*).

Student Resources

➤ ACTIVITY 2.1 – Arriving in Australia

Worksheet 2.1a – I am an Alpaca (Stimulus activity)

Worksheet 2.1b – What are Alpacas Used For? (Recording activity)

Worksheet 2.1c – Arriving in Australia (Literacy activity)

Worksheet 2.1d – Arriving in Australia (Mapping activity)

➤ ACTIVITY 2.2 – The Life of an Alpaca

Worksheet 2.2a – Alpacas Grow and Change (Craft activity)

➤ ACTIVITY 2.3 – Building a Life Sized Alpaca

Worksheet 2.3a – Alpaca Data Sheet (Modelling activity)

Worksheet 2.3b – How Fast Does a Cria Grow? (Calculation activity)

Acknowledgments

- Gayle Herring, Fibre Naturally Alpaca Woollen Mill
- Waratah Alpaca Fibre
- Mulberry Park Alpaca Stud
- Coolawarra Storybook Alpaca Stud
- Ambersun Alpaca Stud
- EP Cambridge Alpaca Stud
- Mllduck Alpaca Stud
- Dairy Road Alpaca Stud
- Wedgetail Rise Alpaca Stud
- Barrooka Alpaca Stud
- Precision Alpaca Stud
- Australian Alpaca Association
- Tirrikee Alpaca Stud
- Fleurieu Prime Alpaca
- Malakai Alpaca Stud
- Yaringa Alpaca stud

Answers

➤ ACTIVITY 2.1 – Arriving in Australia

Worksheet 2.1d – Arriving in Australia (Mapping activity)

- Chile is located in: South America
- The distance from Chile to where I live is:
Answers will vary depending on students location, eg. 11,592.72km (Warialda, NSW).

➤ ACTIVITY 2.2 – The Life of an Alpaca

Worksheet 2.2a – Alpacas Grow and Change (Craft activity)



➤ ACTIVITY 2.3 – Building a Life Sized Alpaca

Worksheet 2.3b – How Fast Does a Cria Grow? (Calculation activity)

- 1 month: 12 kgs, 2 months: 18 kgs, 3 months: 23 kgs, 4 months: 28 kgs, 5 months: 32 kgs, 6 months: 36 kgs

References

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- Australian Alpaca Association (2019). Why farm alpacas in Australia. [online] www.youtube.com. Available at: <https://www.youtube.com/watch?v=svz2RESTz-U> [Accessed 17 Nov. 2022].
- Australian Alpaca Association (2020). Introduction to Alpacas for RSPCA Officers. [online] Available at: <https://alpaca.asn.au/wp-content/uploads/2021/08/RSPCA-overview-August-2020.pdf>
- earth.google.com. (n.d.). Google Earth. [online] Available at: <https://earth.google.com/web/@-37.4207482> [Accessed 17 Nov. 2022].
- Illuminated Films (2016). The Very Hungry Caterpillar – Animated Film. YouTube. Available at: <https://www.youtube.com/watch?v=75NQK-Sm1YY>
- Vanderbeek, F. (2012). *Ag Guide A Practical Handbook Farming Alpacas* (1st ed.). Continuing Education, Tocal College. (Original work published 2012)

This resource has been developed by:

STIMULUS ACTIVITY


I am an Alpaca



This resource has been developed by:

RECORDING ACTIVITY

What are Alpacas Used For?



Four large orange arrows point from the center towards the four corners of the page, framing the central image and the surrounding writing areas.

Four large rounded rectangular boxes with orange borders are arranged around the central image. Each box contains five horizontal lines for writing.

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LITERACY ACTIVITY

Arriving in Australia

Alpacas are members of the family that includes the guanaco ('hwan-ark-oh'), llama ('ya-mah' or 'lar-mah') and vicuna ('vy-koon-yah'). Collectively, they are known as South American Camelids.

Alpacas originated from South America and were highly valued animals during the Incan civilisation from the 13th until the 16th century. They were essential in providing food and clothing (fleece and leather), and their manure was burnt as a source of fuel for heating and cooking. During this time, alpacas were found in various regions of South America, and alpaca numbers approached 50 million.

During the Spanish invasion in the 16th century, the majority of alpacas were slaughtered and almost extinguished. The remaining alpaca farmers retreated to the high mountain regions (the Andes) where the newly introduced cattle and sheep could not survive. Only the alpacas resilience and tolerance of harsh climate saw their continued existence in the Andes.



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LITERACY ACTIVITY

Arriving in Australia (cont.)

The value of alpacas was rediscovered and again utilised during the 1800s. In the mid-1800s, the entrepreneur Charles Ledger imported the first alpacas to Australia.



The venture was unsuccessful, as the herd was dispersed and eventually died out. Alpacas were first imported into the United States of America and Canada in 1984 and then to Australia (for the second time) and New Zealand in 1989. These countries offer milder climates and, most importantly, the opportunity to apply more advanced farming techniques and better management, which have seen herd numbers prosper in a relatively short time.

Alpaca fibre has many uses, which depend on the fibre's qualities. The most obvious uses are clothing, including items knitted or woven out of fibre, such as gloves, scarves and high-end suits. Alpaca fibre has been used to make household items, such as doonas, bed underlays and carpets. It can be used to fill pillows or dog beds and as wadding in various jackets. Less common uses of alpaca fibre include mask filters (see 'fair air fire mask' link) and insulation for homes or sheds.

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MAPPING ACTIVITY

Arriving in Australia



1. Click on the link to access Google Earth.



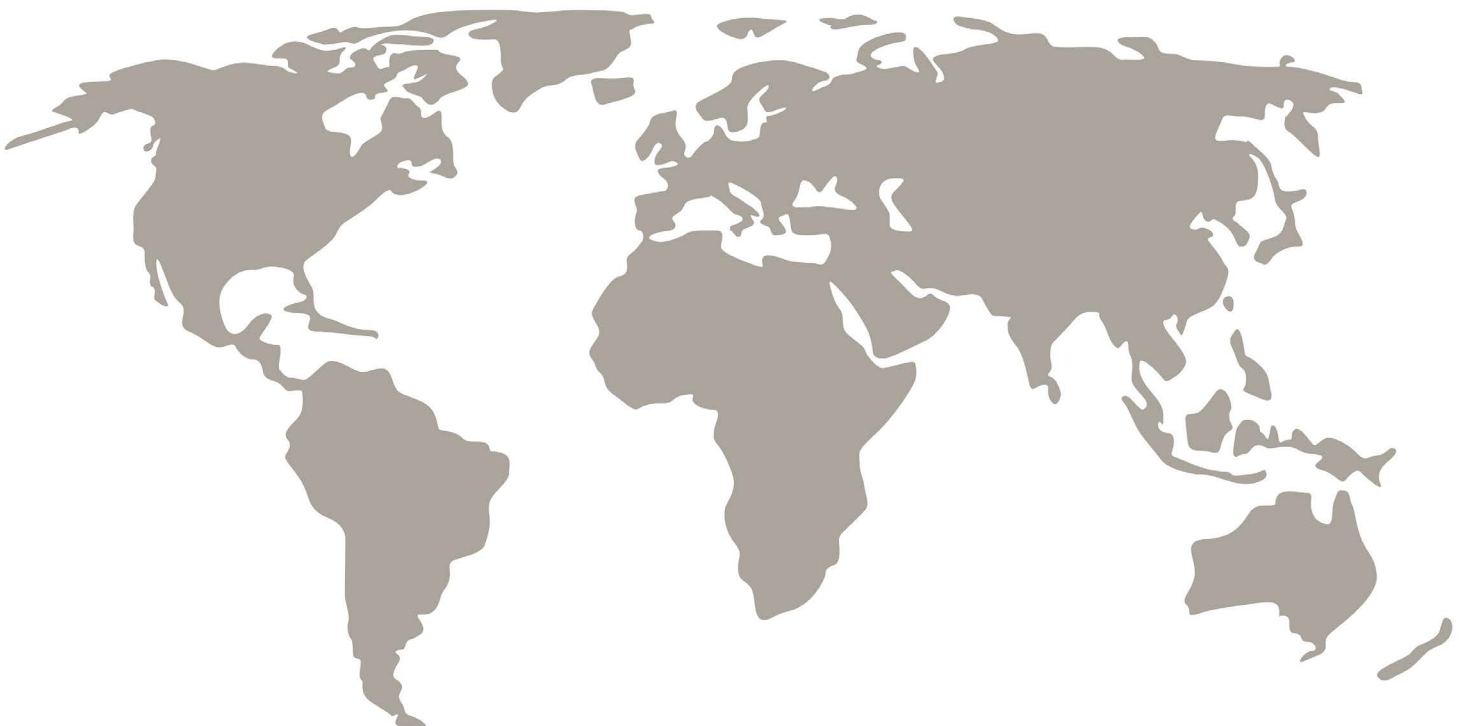
2. Type 'Chile' into the search bar.



3. Name the continent where Chile is located.



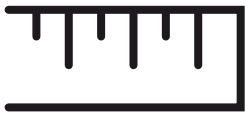
4. Mark Chile's location on the map with an 'X'.



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MAPPING ACTIVITY

Arriving in Australia (cont.)



5. Click on the ruler icon, then click on the red pin, assigning it to Chile on the Google Earth map (to start the measuring tool).



6. Use the mouse or keypad to turn the Earth and locate the area where you live (e.g. Warialda, NSW). You may need to use the '+' tool at the bottom right of the screen to zoom in and find your nearest town/suburb. Click and pin this location with the mouse or keypad (a yellow line should have tracked the trip).



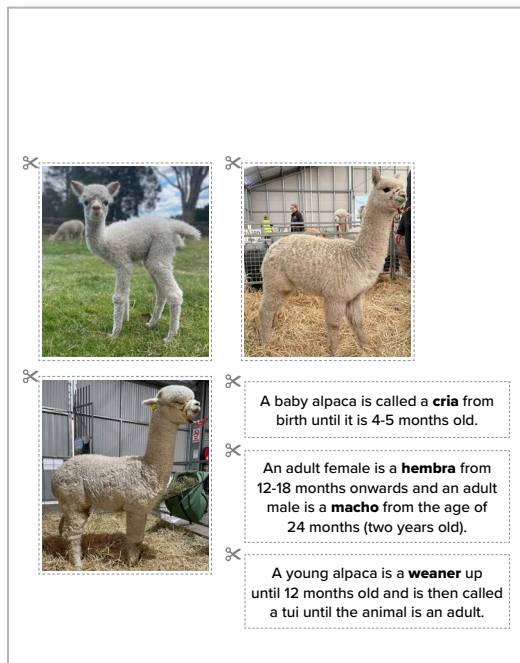
7. At the top right of the screen, the distance from Chile to your location will be calculated (select kilometres as the units).

8. The distance from Chile to where I live is:

CRAFT ACTIVITY

Alpacas Grow and Change – Materials

Collect the following materials:



A baby alpaca is called a **cria** from birth until it is 4-5 months old.

An adult female is a **hembra** from 12-18 months onwards and an adult male is a **macho** from the age of 24 months (two years old).

A young alpaca is a **weaner** up until 12 months old and is then called a **tui** until the animal is an adult.

1 x template
(see following page)

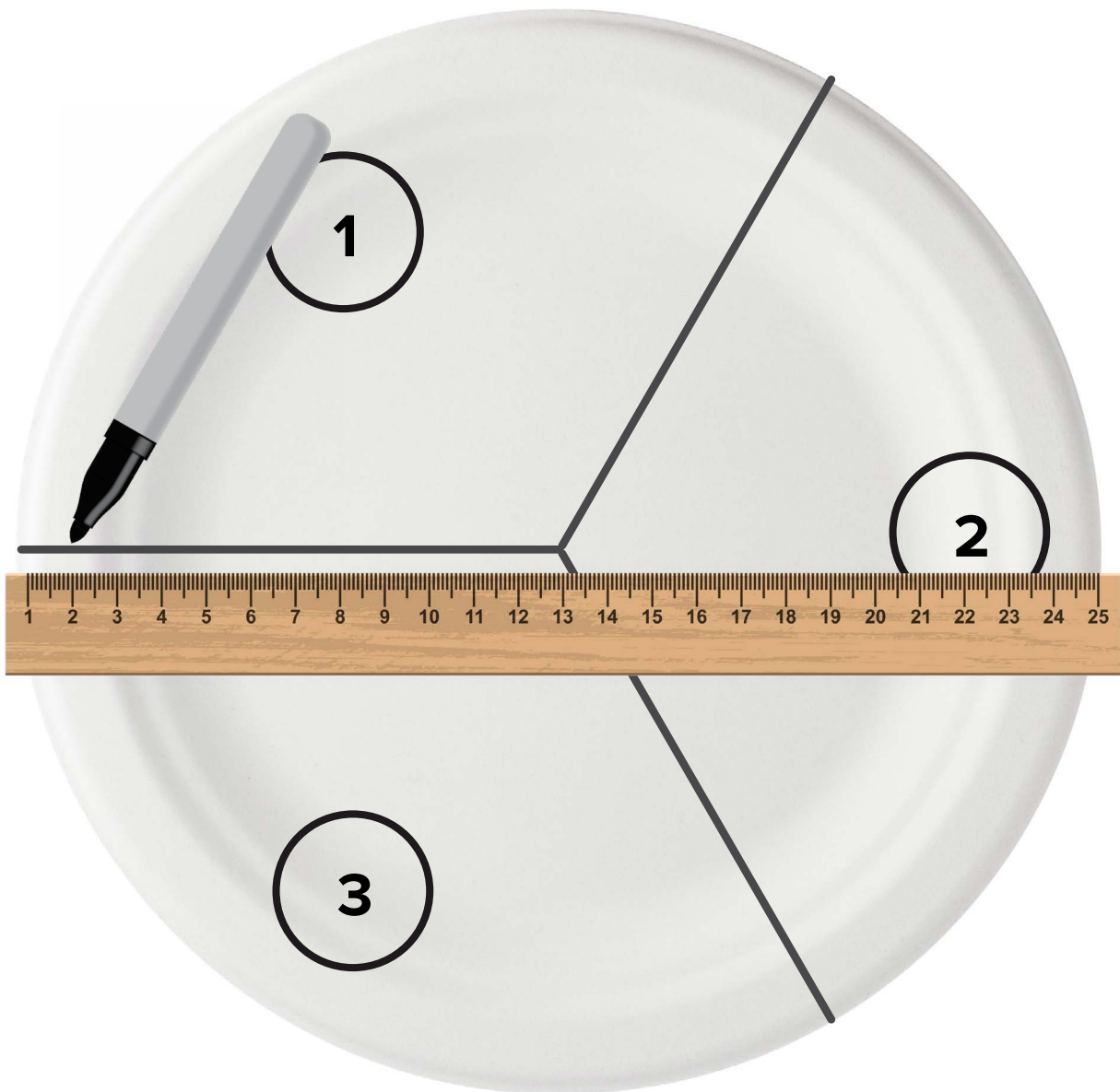


This resource has been developed by:

CRAFT ACTIVITY

Alpacas Grow and Change – Instructions

Step 1 – Use a ruler and a marker to divide the plate into thirds like the diagram below. Number each section from 1–3.



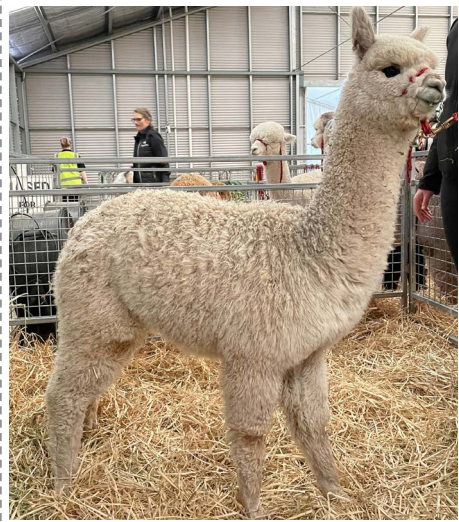
This resource has been developed by:

CRAFT ACTIVITY

Alpacas Grow and Change

– Instructions (cont.)

Step 2 – Use scissors to neatly cut the words and images from below. Paste them on the paper plate in the correct spaces, showing how an alpaca changes from a baby to an adult.



A baby alpaca is called a **cria** from birth until it is 4-5 months old.



An adult female is a **hembra** from 12-18 months onwards and an adult male is a **macho** from the age of 24 months (two years old).



A young alpaca is a **weaner** up until 12 months old and is then called a **tui** until the animal is an adult.

This resource has been developed by:

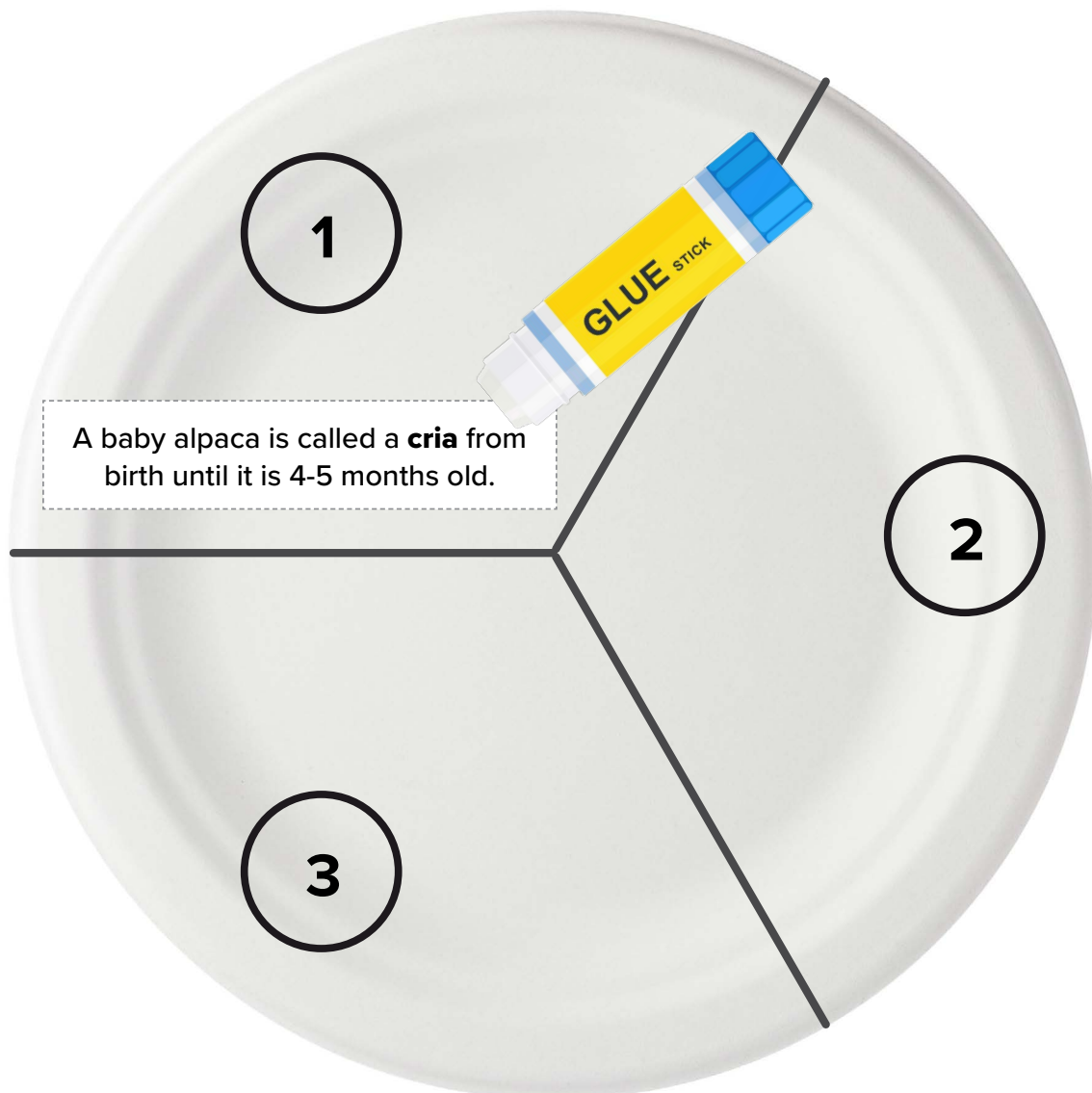
CRAFT ACTIVITY

Alpacas Grow and Change

– Instructions (cont.)

Step 3 – Paste the descriptions and matching images into the sections of the paper plate, showing how an alpaca changes from a baby to an adult. Stick the pictures in the following order:

- 1 – cria
- 2 – weaner and tui
- 3 – adult hembra and macho



This resource has been developed by:

CRAFT ACTIVITY

Alpacas Grow and Change

– Answers

1



A baby alpaca is called a **cria** from birth until it is 4-5 months old.

2



A young alpaca is a **weaner** up until 12 months old and is then called a **tui** until the animal is an adult.

3



An adult female is a **hembra** from 12-18 months onwards and an adult male is a **macho** from the age of 24 months (two years old).

This resource has been developed by:

MODELLING ACTIVITY

Alpaca Data Sheet



0 – 6 months

Cria (cree-ah)

Height – 70cm

Length – 46cm

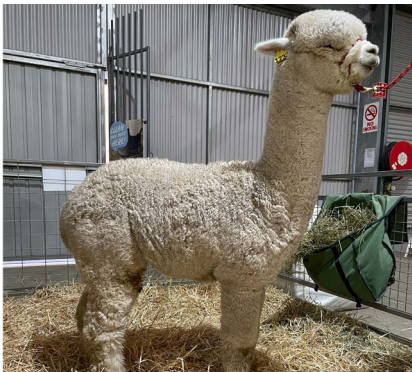


6 – 12 months

Weaner

Height – 117cm

Length – 78cm



12 months to maturity

Tui (too-ee)

Height – 125cm

Length – 83cm



2 years to 15 – 20 years (Males)
1 year to 15 – 20 years (Females)

Machos – Male

Hembra – Female

Height – 138cm

Length – 93cm

This resource has been developed by:

CALCULATION ACTIVITY

How Fast Does a Cria Grow?



Use the information in the columns below to work out how heavy a young alpaca is each month until it reaches 6 months.

Add the weight gains to calculate the total weight of the alpaca for each month.

Time (months)	Weight gain (kgs)	Total weight (kgs)
0	Birth weight 6	6
1	Gains 6	$6 + 6 = \underline{\hspace{2cm}}$
2	Gains 6	$\underline{\hspace{2cm}} + 6 = \underline{\hspace{2cm}}$
3	Gains 5	$\underline{\hspace{2cm}} + 5 = \underline{\hspace{2cm}}$
4	Gains 5	$\underline{\hspace{2cm}} + 5 = \underline{\hspace{2cm}}$
5	Gains 4	$\underline{\hspace{2cm}} + 4 = \underline{\hspace{2cm}}$
6	Gains 4	$\underline{\hspace{2cm}} + 4 = \underline{\hspace{2cm}}$

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